Co-Benefits: Evaluating The Multiple Benefits of Clean Energy Actions

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Energy Collaborative Analysis Workshop
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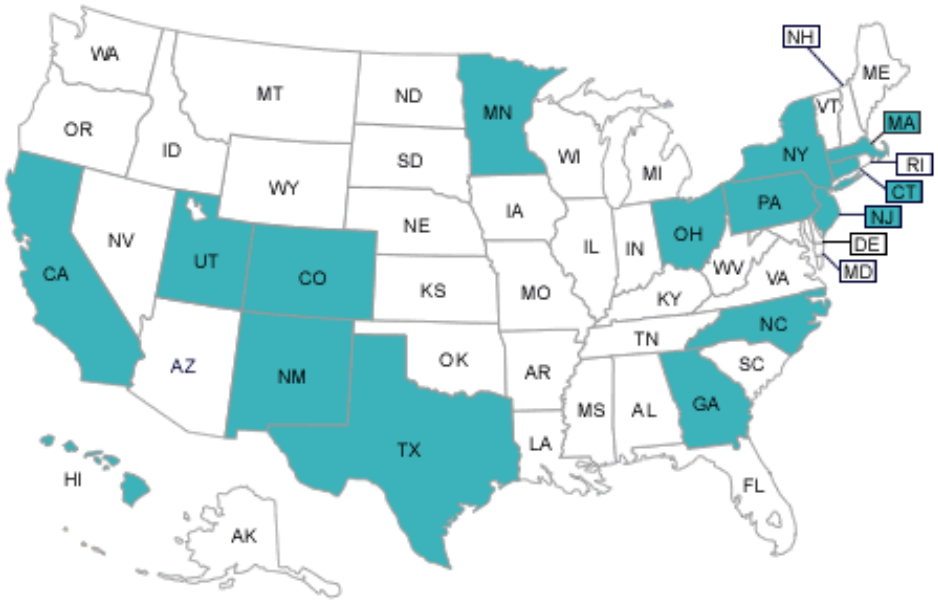
The Clean Energy-Environment State Partnership

EPA provides:

- Dedicated, hands-on assistance evaluating strategic and programmatic options
- Targeted guidance and analysis
- State-to-state peer exchange and communication support
- Information about funding opportunities and related clean energy resources
- National recognition

Partners take action:

- Collaboration among state agencies
- Establish clean energy goals
- Evaluate options and measure benefits
- Develop clean energy action plan



Participating States (15):
CA, CO, CT, GA, HI, MA, MN, NC, NJ, NM, NY, OH, PA, TX, UT

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Many States Interested in Co-Benefits of Clean Energy

- States have different:
  - Goals:
    - Economic, Energy, Environment
  - Champions & Clients:
    - Governor, Legislature, Agency Staff, Local Governments, NGOs, General Public
- Each may require different information to motivate or validate action(s)
  - Jobs, greenhouse gas emissions, air pollution, renewable energy
  - Prospective versus Retrospective Analyses

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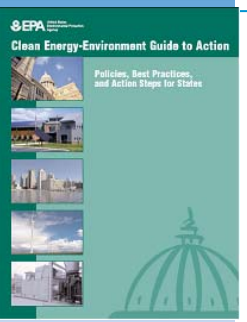
Resources for States – *Example Tools, Analysis, Expertise*



Guidance:

- Clean Energy-Environment Guide to Action: Policies, Best Practices and Action Steps for States
- SEP Toolkit
- SIP Guidance for EE/RE Actions
- Clean Energy potential assessment guidance
- Lead By Example Guidebook
- Guidebook for Assessing Multiple Benefits

Quantifying State Emissions:

- State GHG Inventory Tool
- NACAA Clean Air and Climate Protection Software
- E-Grid
- E-Calc

Evaluating Clean Energy Policy Options:

- Cost Benefits & Emissions (GHG, Air Pollution):
  - CACPS Policy Assessment Module
- Macroeconomic Impacts:
  - Access to Economic Models
- Human Health Effects:
  - Co-Benefits Risk Assessment (COBRA)
  - Mitigation Impact Screening Tool (MIST)

Communicating Benefits

- GHG Equivalency Calculator

State-to-State Peer Exchange

- EE/RE State Technical Forums
- Conferences and training sessions
- Reports and white-papers

Coordination with Other Voluntary Programs:

- Green Power Partnership
- CHP Partnership
- National Action Plan for Energy Efficiency

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Selecting the Right Tool for the Job – Key Questions for Getting Started with Measurement

- Who is the audience and what kinds of information do they need?
- Why is analysis being undertaken?
  - Do you need to demonstrate the value of an existing program or persuade investment in a new one?
- What resources are necessary? available?
  - Data
  - Expertise, level of rigor
  - Financial
  - Time
  - Staff

Answering these questions helps determine what tools & models are appropriate to the policy or program context.

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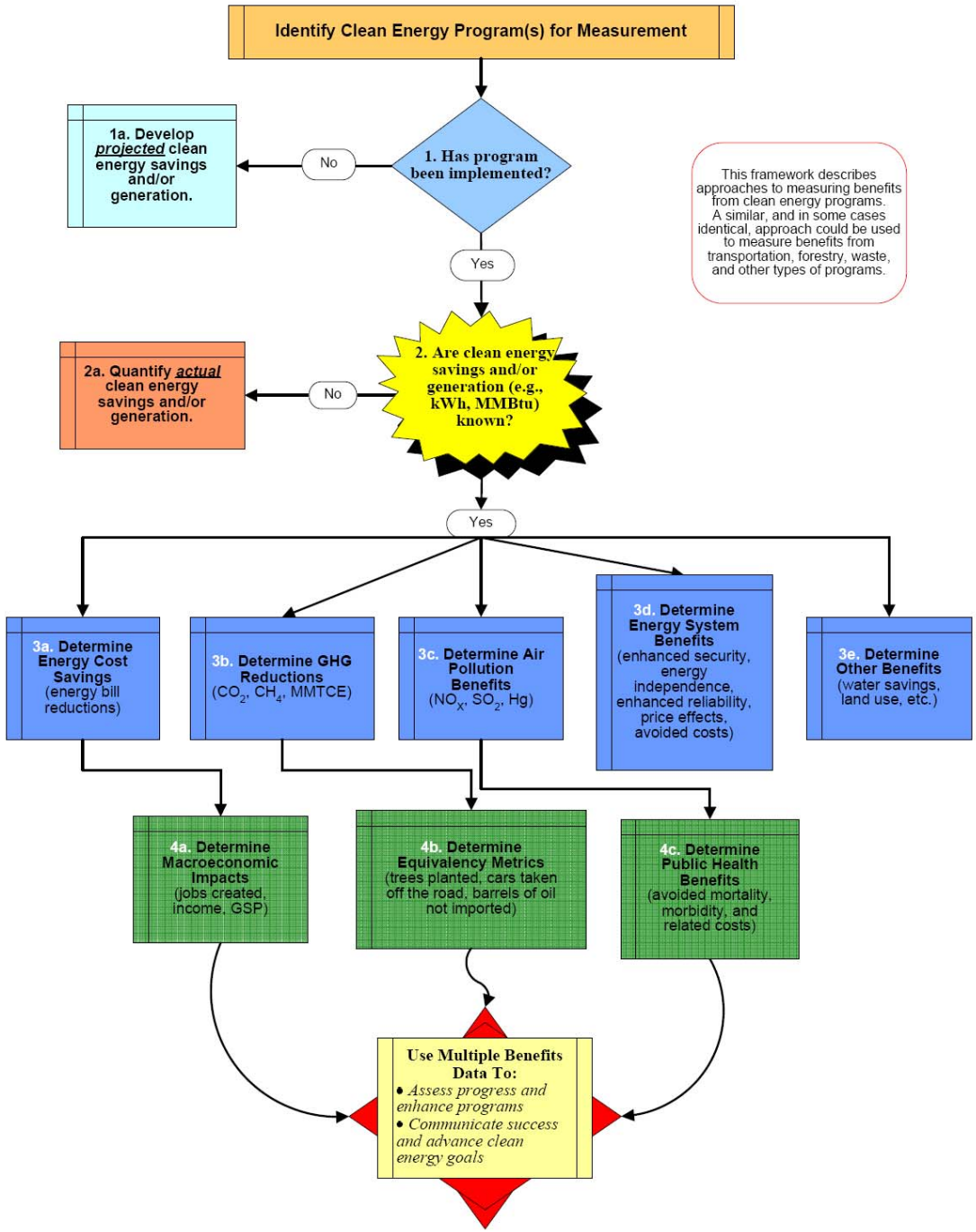
- This Co-benefits framework helps to map out process, questions and options



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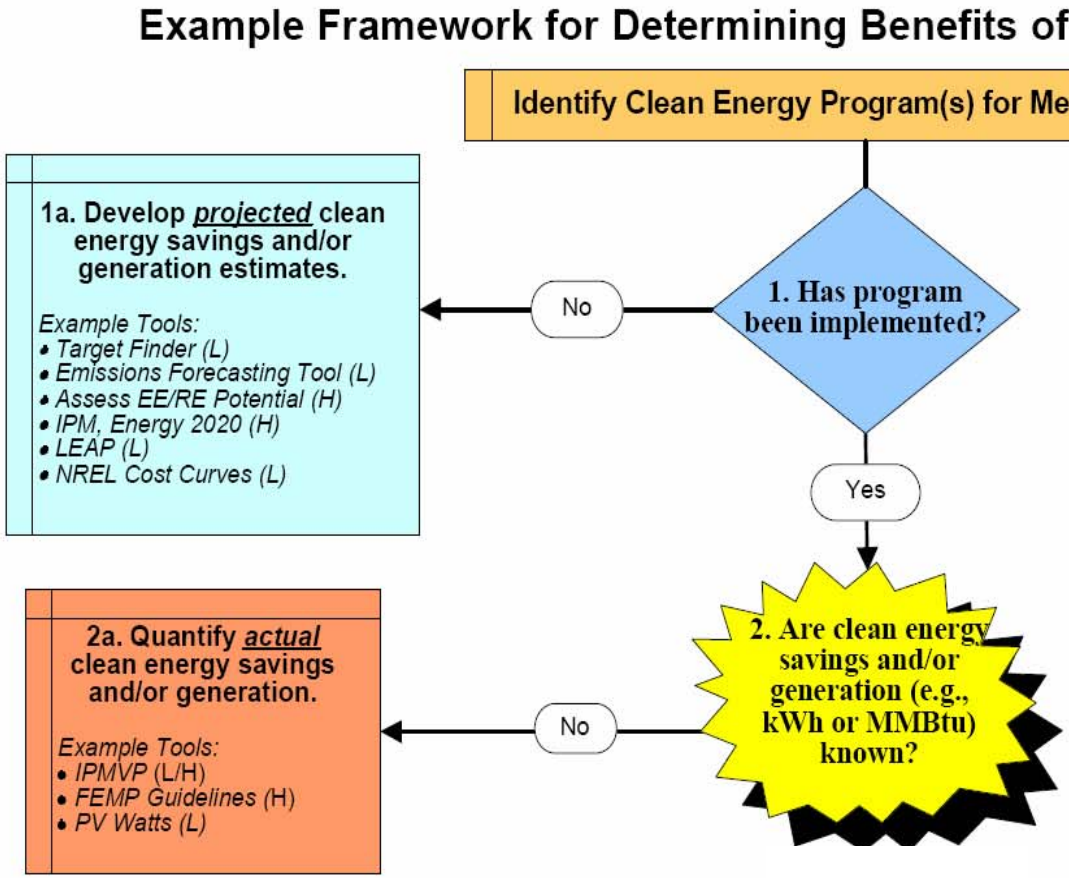
Getting Started



*** Key data need for evaluating clean energy programs is **actual energy savings**;

- Once savings are known, it is much easier to identify the multiple benefits of clean energy.

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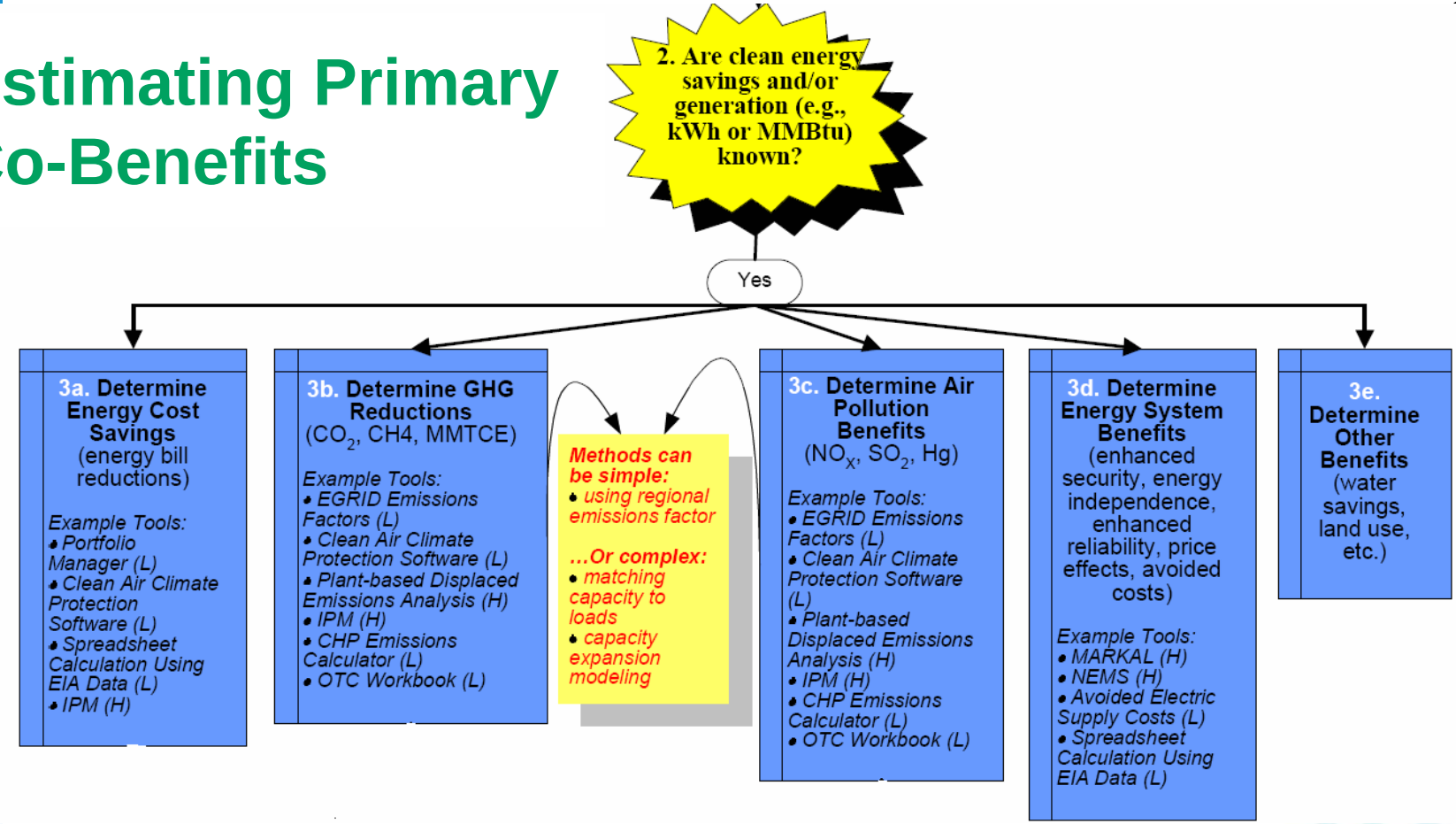
Estimating Primary Co-Benefits



- Once energy savings and/or generation is known, it is possible to estimate:
  - Energy cost savings
  - Greenhouse gas emission reductions
  - Air Pollution Benefits
  - Energy System Benefits
  - Other…

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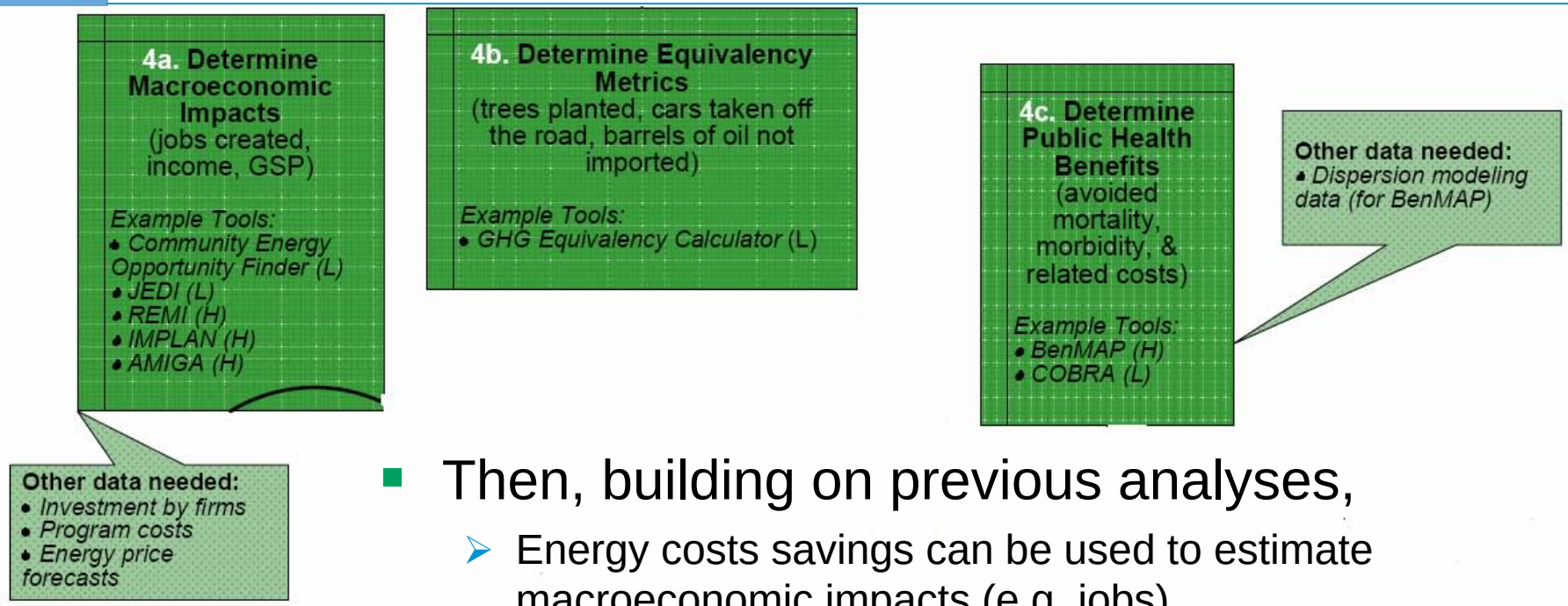
Taking Co-Benefits Estimates Further



- Then, building on previous analyses,
  - Energy costs savings can be used to estimate macroeconomic impacts (e.g. jobs)
  - Greenhouse gases can be translated into easily understood metrics (e.g. cars, trees), and
  - Air pollution benefits can be used to approximate human health effects (and related economic benefits).

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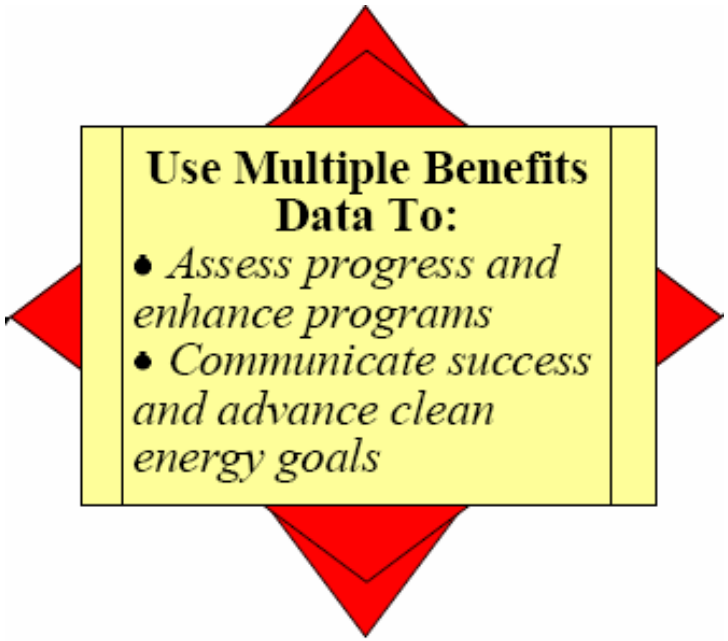
Using Co-Benefits



- Multiple benefits data can be used to inform key stakeholders and/or decision-makers about progress and new opportunities.
- Co-benefits can expand the number of parties interested in issue
- It can also demonstrate progress or shortfalls relative to multiple goals.
- **BUT** this **cannot be done easily without the energy savings or generation data**.

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Opportunities for ECAI Collaboration

- As stated, determination or estimation of energy savings and/or generation data is key to estimating benefits of clean energy for states
  - EPA has many tools to assess ancillary benefits but could use additional tools and guidance for state-level energy-related analyses
- Potential opportunities for collaboration
  - Technical peer review of products & tools
  - Provision of information and/or guidance for states conducting energy analyses
  - Others?

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For More Information

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